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5    associating each data value of the plurality of data values with one
6    of a plurality of geometric shapes according to a predetermined set of rules;

7    placing said one of the plurality of geometric shapes associated
8    with each data value of the plurality of data values on the grid; and

9    displaying visual and geometric information placed on the grid to a
10    user in graphical form.

1    2.    (Amended)  A method for visualizing data arrays provided
2    in the form of a plurality of data values, said method comprising the steps of:

3    extracting a plurality of data values associated with a mathematical
4    matrix to generate a grid based on the plurality of data values;

5    identifying one of a plurality of numerical attributes associated
6    with each data value of the plurality of data values;

7    associating each numerical attribute with one of a plurality of
8    visual attributes;

9    associating each data value of the plurality of data values with one
10    of a plurality of geometric shapes each having one of the plurality of visual
11    attributes, which is consistent with the data value, according to a predetermined
12    set of rules;

13    placing said one of the plurality of geometric shapes associated
14    with each data value of the plurality of data values on the grid; and

15    displaying visual and geometric information placed on the grid to a
16    user in graphical form.

1    4.    (Amended)  The method according to claim 1, wherein the
2    data arrays of the plurality of data values are the data arrays of conductance
3    matrices.

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1     5.  (Amended)  An article of manufacture comprising a
2 computer usable medium having computer readable program code means
3 embodied therein for visualizing data arrays provided in the form of a plurality
4 of data values, the computer readable program code means in said article of
5 manufacture comprising computer readable program code means for causing a
6 computer to effect:

7     extracting a plurality of data values associated with a mathematical
8 matrix to generate a grid based on the plurality of data values;

9     associating each data value of the plurality of data values with one
10 of a plurality of geometric shapes according to a predetermined set of rules;

11     placing said one of the plurality of geometric shapes associated
12 with each data value of the plurality of data values on the grid; and

13     displaying visual and geometric information placed on the grid to a
14 user in graphical form.

1     6.  (Amended)  An article of manufacture comprising a
2 computer usable medium having computer readable program code means
3 embodied therein for visualizing data arrays provided in the form of a plurality
4 of data values, the computer readable program code means in said article of
5 manufacture comprising computer readable program code means for causing a
6 computer to effect:

7     extracting a plurality of data values associated with a mathematical
8 matrix to generate a grid based on the plurality of data values;

9     identifying one of a plurality of numerical attributes associated
10 with each data value of the plurality of data values;

11     associating each numerical attribute with one of a plurality of
12 visual attributes;

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13        associating each data value of the plurality of data values with one
14 of a plurality of geometric shapes each having one of the plurality of visual
15 attributes, which is consistent with the data value, according to a predetermined
16 set of rules;

17        placing said one of the plurality of geometric shapes associated
18 with each data value of the plurality of data values on the grid; and

19        displaying visual and geometric information placed on the grid to a
20 user in graphical form.

1        8.    (Amended)  The article of manufacture according to claim
2 5, wherein the data arrays of the plurality of data values are the data arrays of
3 conductance matrices.

1        9.    (Amended)  A computer program product comprising a
2 computer usable medium having computer readable program code means
3 embodied therein for causing visualization of data arrays provided in the form of
4 a plurality of data values, the computer readable program code means in said
5 computer program product comprising computer readable program code means
6 for causing a computer to effect:

7        extracting a plurality of data values associated with a mathematical
8 matrix to generate a grid based on the plurality of data values;

9        associating each data value of the plurality of data values with one
10 of a plurality of geometric shapes according to a predetermined set of rules;

11        placing said one of the plurality of geometric shapes associated
12 with each data value of the plurality of data values on the grid; and

13        displaying visual and geometric information placed on the grid to a
14 user in graphical form.

1        10.    (Amended)  A computer program product comprising a
2 computer usable medium having computer readable program code means

3    embodied therein for causing visualization of data arrays provided in the form of

4    a plurality of data values, the computer readable program code means in said

5    computer program product comprising computer readable program code means

6    for causing a computer to effect:

7        extracting a plurality of data values associated with a mathematical

8    matrix to generate a grid based on the plurality of data values;

9        identifying one of a plurality of numerical attributes associated

10    with each data value of the plurality of data values;

11        associating each numerical attribute with one of a plurality of

12    visual attributes;

13        associating each data value of the plurality of data values with one

14    of a plurality of geometric shapes each having one of the plurality of visual

15    attributes, which is consistent with the data value, according to a predetermined

16    set of rules;

17        placing said one of the plurality of geometric shapes associated

18    with each data value of the plurality of data values on the grid; and

19        displaying visual and geometric information placed on the grid to a

20    user in graphical form.

1        12.    (Amended)  The product according to claim 9, wherein the

2    data arrays of the plurality of data values are the data arrays of conductance

3    matrices.

1        13.    (Amended)  A storage device readable by machine, tangibly

2    embodying a program of instructions executable by the machine to perform a

3    method for visualizing data arrays provided in the form of a plurality of data

4    values, said method comprising the steps of:

5        extracting a plurality of data values associated with a mathematical

6    matrix to generate a grid based on the plurality of data values;

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7          associating each data value of the plurality of data values with one
8     of a plurality of geometric shapes according to a predetermined set of rules;

9          placing said one of the plurality of geometric shapes associated
10     with each data value of the plurality of data values on the grid; and

11          displaying visual and geometric information placed on the grid to a
12     user in graphical form..

1          14.    (Amended)  A storage device readable by a machine,
2     tangibly embodying a program of instructions executable by the machine to
3     perform a method for visualizing data arrays provided in the form of a plurality
4     of data values, said method comprising the steps of:

5          extracting a plurality of data values associated with a mathematical
6     matrix to generate a grid based on the plurality of data values;

7          identifying one of a plurality of numerical attributes associated
8     with each data value of the plurality of data values;

9          associating each numerical attribute with one of a plurality of
10     visual attributes;

11          associating each data value of the plurality of data values with one
12     of a plurality of geometric shapes each having one of the plurality of visual
13     attributes, which is consistent with the data value, according to a predetermined
14     set of rules;

15          placing said one of the plurality of geometric shapes associated
16     with each data value of the plurality of data values on the grid; and

17          displaying visual and geometric information placed on the grid to a
18     user in graphical form.

1   16.   (Amended)  The device according to claim 13, wherein the
2   data array of the plurality of data values are the data arrays of conductance
3   matrices.

1   17.   (Newly Added)  The method according to claim 1, wherein
2   the data arrays of the plurality of data values are the data arrays of mathematical
3   models of systems.

1   18.   (Newly Added)  The article of manufacture according to
2   claim 5, wherein the data arrays of the plurality of data values are the data
3   arrays of mathematical models of systems.

1   19.   (Newly Added)  The product according to claim 9, wherein
2   the data arrays of the plurality of data values are the data arrays of mathematical
3   models of systems.

1   20.   (New Added)  The device according to claim 13, wherein
2   the data array of the plurality of data values are the data arrays of mathematical
3   models of systems.